

13B-4 natural gas, the production index was 170 for 1963 and 127 for 1958;
and the unit value
indexes were 133 and 108. For wells drilled, the quantity index.
based on footage

drilled, was 91 for 1963 and 94 for 1958 and the unit cost (or value) index was 99 for 1963 and 112 for 1958. Secondary Production. — The general statistics (employment, payroll, value of shipment, cost of supplies, etc.) are reported for each establishment as a whole. Aggregate-

dates of such data for an industry reflect not only the primary activities of the establishments in the industry, but also their activities in the production of secondary products and in the performance of contract work for others. This fact should be taken into account in comparing industry statistics (tables 1 to 4 and 7 to 12) with product, drilling, and number of wells statistics (tables 6A to 6F) showing shipments and related statistics for all industries of the primary products and related activities of the specified industry. The extent of the "product mix" is indicated in table 5A which shows the value of primary and secondary products shipped by establishments classified in the specified industry or subindustry and also the value of primary products of the industry produced as secondary products by establishments classified in other industries. Drilling statistics and number of producing wells for all industries as shown in tables 6E and 6G may be compared with such statistics for the Crude Petroleum and Natural Gas Industry only as shown in tables 3A and 3B.

Comparability With Bureau of Mines Statistics. — The Bureau of the Census attempts to cover all establishments with value of shipments or reported costs of \$500 or more. Establishments with no employees amounted to 30 percent of all establishments covered in the Crude Petroleum and Natural Gas Industry in the 1963 census, and establishments with less than 5 employees accounted for 78 percent of all establishments. The latter establishments representing 11 percent of the total value of shipments and receipts for the industry, 14 percent of all capital expenditures, and probably a higher percentage of total contract expenditures since many such establishments drilled holes for which the costs would not be capitalized. The large number of small operations and the prevalence of operation of properties or drilling for oil and gas under short-term agreements and joint ventures in widely scattered areas make coverage of this industry by the usual census techniques particularly difficult.

For the above reasons, a supplemental survey was designed to improve coverage. The mailing list for this survey was obtained by asking all drilling contractors with quarterly payroll of \$4,000 or more to provide the names and addresses of companies for whom they performed services. After eliminating, insofar as possible, the names of previously surveyed operators, an abbreviated reporting form was sent to these additional names. About 4,000 such forms were mailed. It was found that a considerable number of the reports received in this survey were duplicates of reports already submitted under a slightly different name. Such reports were rejected from the tabulations.

An exact measure of the contribution of this survey is not available at this time. However, this supplemental survey appears to have added 2 to 3 percent to coverage of shipments of oil and gas, probably a higher percentage to coverage of drilling activities and capital expenditures,

and well over 10 percent to establishment coverage.

Even with this supplemental survey, the coverage of production, shipments, and operating costs for the Crude Petroleum and Natural Gas Industry in the 1963 census is probably slightly lower than in most other areas of the economic censuses. However, the census is the only attempt by any federal or private organization to obtain complete coverage statistics directly from oil and gas field operators. All totals from other sources for such activities represent figures developed from a relatively small sample of reports, primarily from large companies, or from secondary source reports, such as for pipe line runs and productive wells connected to pipe lines.